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File: USPT

DOCUMENT-IDENTIFIER: US 6423346 B1

TITLE: Fish gelatinous composition for use as an ingredient in tablets

Abstract Text (1):

Particulate composition comprising one or more physiologically active substances and a fish gelatinous protective colloid containing at least 50% by weight of fish gelatin, wherein the fish gelatin is at least partly composed of fish gelatin having a bloom strength of above 100, and wherein the composition is obtainable by a particle forming spraying or double emulsifying method.

Brief Summary Text (3):

Fish gelatine (also known as fish gelatin) is used for dietary applications, where mammalian gelatines are unacceptable on religious grounds. Fish gelatine is available as Kosher grade.

Brief Summary Text (27):

In addition to the fish gelatine, the fish gelatinous protective colloid may comprise exudates, such as gum arabic, tragacanth, gum karaya and gum ghatti; extracts from seaweed, such as agar, alginate, carrageenan and furcellaran; extracts from plants, such as pectin, arabinogalactan and vegetable proteinaceous hydrocolloids; extracts from marine and terrestrial animals, such as kosher gelatines, casein and caseinate; flours from seeds, such as guar, locust bean and soya bean; proteins from seeds, such as soya bean protein; flours from cereals, such as starches and microcrystalline cellulose; biosynthetic or fermentation derived hydrocolloids, such as dextran, xanthan, and curdlan; chemically modified hydrocolloids, such as cellulose derivatives, including methyl cellulose, carboxymethylcellulose and hydroxypropyl-cellulose, and other derivatives, including modified starches and low methoxyl pectin; synthetic hydrocolloids, such as polyvinyl pyrrolidone, polyvinyl alcohol, carboxyvinyl polymers etc. Also reference is made to R. A. Morton, "Fat Soluble Vitamins", Intern. Encyclopedia of Food and Nutrition, Vol. 9, Pergamon Press, pp. 128-131, 1970, which is included herein by this reference. Preferred additional colloids included in the fish gelatinous protective colloid are gum arabic, vegetable proteinaceous hydrocolloids, kosher gelatines, casein, caseinate, soya bean protein, modified starches and mixtures thereof.

Brief Summary Text (43):

In a spray congelation process, a suspension containing a hydrocolloid having a temperature higher than the gelling/melting point of the emulsion, i.e. from about 30.degree. C. to about 95.degree. C., and a viscosity of preferably between 50 and 600 mpa.s, is preferably sprayed using an atomizing nozzle or an atomizing wheel into a spraying chamber, wherein the temperature is from 0.degree. to about 40.degree. C., thereby forming microcapsules of gelatinised hydrocolloid.

Other Reference Publication (1):

Seafood Saf., Process., Biotechnol. (19), pp 187-197. Lu et al. Characterization of several fish gelatins, 1997.

CLAIMS:

1. A particulate composition comprising one or more physiologically active

substances and a fish gelatinous protective colloid containing at least 50% by weight of fish gelatine, and, optionally, a second hydrocolloid; wherein the fish gelatin contains at least 50% by weight of fish gelatin having a bloom strength of above 100, and wherein the composition is obtained by a particle forming spray congelation method or a double emulsifying method.

2. A composition according to claim 1, wherein the fish gelatinous protective colloid contains at least 70% by weight of fish gelatin.

3. A composition according to claim 2, wherein the fish gelatinous protective colloid contains at least 90% by weight of fish gelatin.

4. A composition according to any one of claim 1, 2, or 3, wherein the second hydrocolloid is selected from the group consisting of gum arabic, vegetable proteinaceous hydrocolloids, kosher gelatines, casein, caseinate, soya bean protein, and modified starches.

5. A composition according to claim 1, whereas the fish gelatine contains at least 70% by weight of fish gelatin having a bloom strength of above 100.

6. A composition according to claim 1, wherein the fish gelatin has a bloom strength of 180-260.

7. A composition according to claim 1, wherein the fish gelatin has a gelation temperature of 15-25.degree. C.

8. A process for preparing a particulate fish gelatinous composition, the process comprising the steps of: providing an aqueous solution of a fish gelatinous protective colloid at a temperature of above the gelation temperature of the colloid, the colloid containing at least 50% by weight of fish gelatin and, optionally a second hydrocolloid wherein the fish gelatin contains, at least 50% by weight of fish gelatin having a bloom strength of above 100; adding to the solution one or more physiologically active substances to obtain an aqueous mixture; subjecting the aqueous mixture to a spray congelation method or a double emulsifying method to transform it to particles and to effect a gelation of the particles by cooling them to a temperature of below their gelation temperature to obtain gelled particles; and removing any excess water from the gelled particles to obtain dried particles.

9. A tablet comprising conventional excipients and a particulate composition therein, whereby the particulate composition contains one or more physiologically active substances and a gelatinous protective colloid, wherein the gelatinous protective colloid contains at least 50% by weight of fish gelatin, and, optionally a second hydrocolloid, wherein the fish gelatin contains at least 50% by weight of fish gelatin having a bloom strength of above 100, and wherein the composition is obtained by a particle forming spray congelation method or a double emulsifying method.